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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,696	10/30/2001	Michael Eneboe	01-490	9160

24319	7590	10/22/2003

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EXAMINER
SIEK, VUTHE

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒   Responsive to communication(s) filed on _07 August 2003_ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐   Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒   Claim(s) _1-23_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒   Claim(s) _14 and 15_ is/are allowed.

6)☒   Claim(s) _1,2-6,8-13 and 16-23_ is/are rejected.

7)☒   Claim(s) _7_ is/are objected to.

8)☐   Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐   The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6)☐ Other:

DETAILED ACTION

1.   This office action is in response to application 10/021,696 and amendment filed

on 10/11/2003. Claims 1-23 remain pending in the application.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1, 2-6, 8-13, 16-23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Miller et al. (6,539,531).

4.   As to claims 1, 11 and 16, Miller et al. a method of designing integrated circuit

(ICs) and their interconnect system including IC component cells and interconnect

component cells in a cell library. Both IC and its interconnect system are designed by

selecting and specifying interconnections between component cells including in a cell

library. Interconnections between component cells are flexibly designed to act like

filters tuned to optimize desired frequency response characteristics. The behavior

models of the IC and its interconnection systems, based on the behavior models of the

their selected component, are determined whether the IC and its interconnection system

meet various performance criteria and constraints (for example bandwidth) (see Figs. 6,

11-23 and description, col. 5, line 66 to col. 7, line 3; col. 8-10; col. 13 line 20 to col. 14,

line 47). Thus, Miller et al. teach designing an IC including its interconnection system

based at least on bandwidth and interconnect configuration.

5.   As to claims 2-6, 8-10, 12-13 and 17-23, Miller et al. utilizing a synthesis to

synthesize and an IC having the specified designed (Fig. 6); the optimized design

including a specified characteristic for the interconnect (impedance), wherein the

specified characteristic including a bandwidth (Figs. 11-13; col. 13); wherein a direct

connectivity definition, derived from the optimized data is utilized to synthesize an IC

(Figs. 6, 11-13); wherein optimizing including arranging components of the IC and

specifying bandwidth between components (col. 13, Figs. 6, 11-13); wherein optimizing

is performed without user intervention by an agent and IC is designed and fabricated

depended on applications (col. 13, col. 15, lines 8-30; Figs. 6, 11-13). In addition,

Miller et al. components include macro cells or modules (col. 8, firm and soft macros);

interconnect component cells conveying I/O signals between driver IC and receiver IC

(col. 8, lines 36-67; col. 9) and some of component cells are previously designed and

stored as cell library. Miller et al. teach interconnect systems are flexibly designed to

act like filters tuned to optimize desired frequency response characteristics; and the

structural models of the interconnect systems developed during the design process

guide subsequent fabrication of interconnect systems for both the IC's intended testing

and operating environment (see summary). This would correspond that the data is

programmed in to a self-programmable IC. Optimizing includes partitioning based on

cost consideration is standard practice of an IC design, thus it is art inherent.

Allowable Subject Matter

6.   Claims 14 -15 are allowed over the prior art of record.

7.   Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior does not suggest that the components are arranged based on all of the following latency, scalability, timing consideration, power considerations, data switching and bandwidth.

Remarks

8.   Applicant(s) have amended the claims and argued that the cited reference does not teach data being optimized based on at least one of bandwidth, latency, scalability, and isochronous interconnect configuration as recited in claims 1, 11 and 16. Miller et al. teach the recited limitations as described in above rejection. Accordingly, the current claims are not patentable over Miller et al.

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Vuthe Siek whose telephone number is (703) 305-4958.

The examiner can normally be reached on M-F (6:30-4:00) 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Smith can be reached on (703) 308-1323. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9318

for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 308-

1782.

Vuthe Siek
Primary Examiner
October 19, 2003